

ABSTRACT OF THE DISCLOSURE

PARALLEL PROCESSOR SYSTEM FOR PROCESSING  
NATURAL CONCURRENCIES AND METHOD THEREFOR

A computer processing system containing a plurality of processor elements operates on a statically compiled program which, based upon detected natural concurrencies in the basic blocks of the programs, includes intelligence regarding logical processor allocation and an instruction firing time in the instruction stream. Each processor element, in one embodiment, is context free and is capable of executing instructions on a per instruction basis so that dependent instructions can execute on the same or different processor elements. A processor element is capable of executing an instruction from one context followed by an instruction from another context through use of shared storage resources.